

Appl. No. 09/775,864
Amdt. Dated September 16, 2004
Reply to Office action of July 2, 2004

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REMARKS/ARGUMENTS

Applicants amended the paragraph on page 19 to correct a typographical mistake.

Applicants note with appreciation that the Examiner has indicated that dependent claims 7 and 9 are allowable if rewritten in independent form including all of the limitations of their respective base claims. In response thereto, applicants have amended dependent claim 7 to be an independent claim including the limitations of claim 1 and have amended dependent claim 9 to be an independent claim including the limitations of claims 1 and 8.

The Examiner rejected priorly presented claims 1-6, 8, and 10-13 as anticipated, 35 USC 102(e), by Kumaki et al., patent 6,473,411, October 29, 2002 (herein after Kumaki). In response thereto, applicants have amended claim 1 to include limitations of claim 6 (that the mobile terminal obtains an IP multicasting address), thereby canceling claim 6, and have further amended claim 1 to clarify that the mobile terminal creates "a plurality of" multicast "IP" network interfaces and that each of these interfaces is "located at said mobile terminal and is based on the IP multicasting address". Applicants have also amended claims 2-4 and 10-11 so that they are consistent with the changes made to claim 1. Applicants have also amended claim 3 to correct a typographical error ("joint" should be "join"). Similarly, applicants' have amended claim 12 to clarify that the processor recited therein is located at the mobile terminal and that the instructions included at this processor "obtain an IP multicasting address" for the mobile terminal. Applicants have also amended claim 12 to clarify that the mobile terminal includes a plurality of multicast "IP" network interfaces and that these interfaces are each "located at said mobile terminal" and are "based on the IP multicasting address". Lastly, applicants have amended claim 12 to clarify that the simultaneous communication recited therein are between the "multicast IP network interfaces" at the mobile terminal and a number of the base stations. Finally, applicants have amended claim 13 to be consistent with the changes made to claim 12.

Applicants' invention allows a mobile terminal to utilize soft handoff in a wireless IP network. Soft handoff, as currently used in CDMA networks, is "a *steady-state* condition wherein a mobile terminal simultaneously communicates *identical* information with a plurality of base stations." This simultaneous communication of identical information allows the information to be aggregated at the receiver thereby reducing errors in the transmission and reception of data between the mobile terminal and network. (Specification, page 1, line 19 to page 2, line 2). However, soft handoff in an *IP* network is problematic because the simultaneous transmission and reception of data at a mobile terminal requires different IP headers for each

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transmission/reception making it difficult to aggregate data. (Specification, page 4, line 9 to page 5, line 18).

In accordance with applicants' invention, a mobile *IP* terminal achieves soft handoff by establishing a plurality of *IP* network interfaces with a plurality of base stations. Significantly, the mobile terminal also obtains an *IP multicasting* address and based on this address, causes each of its *IP* network interfaces to establish a multicast *IP* network connection. As a result, the terminal forms a plurality of independent multicast *IP* network interfaces, each of which is located at the mobile terminal and each of which is based on the same *IP multicasting* address and thereby part of the same multicast group. Data is simultaneously multicasted to the mobile terminal through each of these multicast *IP* network interfaces, thereby causing the mobile terminal to receive the *same* data (i.e., same *IP* header and body) multiple times and thereby allowing for the aggregation of the data. Similarly, the mobile terminal simultaneously transmits the *same* data back to the network through each of the multicast *IP* network interfaces, thereby again allowing for data aggregation. (Specification, page 17, line 13 to page 18, line 19).

Significantly, amended claim 1 recites a mobile terminal obtaining an *IP multicasting* address, the mobile terminal creating a multicasting group of a plurality of multicast *IP* network interfaces wherein each multicast *IP* network interface is located at the mobile terminal and is based on the *IP multicasting* address, and the mobile terminal simultaneously communicating at the *IP* level between said multicast *IP* network interfaces and a plurality of base stations.

In Kumaki column 45, line 65 - column 46, line 23, to which the Examiner makes reference with respect to claim 1, Kumaki teaches a handoff method as a mobile terminal moves between two base stations. A "mobile supporting router" (MSR) interconnects the two base stations and manages this handoff process. During the movement of the mobile terminal from the first to the second base stations, the MSR multicasts data to the mobile terminal through both base stations, rather than just unicasting the data through the first base station. Once the transfer is complete, the multicast ends and data is then unicasted through the second base station.

While Kumaki multicasts data from the network to the mobile terminal, how this multicast is performed is significantly different from applicants' invention as recited by claim 1. In particular, the MSR only *IP multicasts* the data to the base stations. However, there is *no* *IP* multicast from the base stations to the mobile terminal. As part of the multicast process as taught by Kumaki, the mobile terminal requests a radio channel (here a broadcast channel) from each base station. Each base station uses this *link layer* radio channel to then transfer data to the mobile terminal. Significantly, this link layer transfer is not an *IP* multicast. Kumaki fails to teach or

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suggest that the mobile terminal obtains an IP multitasking address and more importantly, fails to teach or suggest that the mobile terminal has a plurality of multicast IP network interfaces all based on the same IP multitasking address and belonging to the same group. Note in particular that in Kumaki column 45, line 65 - column 46, line 9 and in column 4, line 57 - column 5, line 10, to which the Examiner makes reference, Kumaki teaches that it is the MSR and *not* the mobile terminal that has the multiple multicast IP network interfaces, contrary to claim 1. Accordingly, Kumaki fails to teach or suggest amended claim 1.

Amended claim 12 recites similar limitations as claim 1 and is therefore novel and non-obvious in view of Kumaki for the same reasons as set forth above. Similarly, claims 2-5, 8, 10-11, and 13 depend from claims 1 and 12 and are therefore also novel and non-obvious in view of Kumaki for the same reasons as set forth above.

Accordingly, favorable reconsideration and allowance of amended claims 1-5, 8, and 10-13 together with claims 7 and 9, indicated as allowable, are therefore requested.

Applicants earnestly believe that this application is now in condition to be passed to issue, and such action is also respectfully requested. However, if the Examiner deems it would in any way facilitate the prosecution of this application, he is invited to telephone applicants' agent at the number given below.

Respectfully submitted,
Telcordia Technologies, Inc.

By: 
Glen Farbanish
Reg. No. 50561
Tel.: (732) 699-3668